

Docket No.: CL-10191
Application No.: 10/767,066
Amendment Date: February 3, 2006
Reply of Office Action of: October 5, 2005

AMENDMENTS TO THE CLAIMS

Please cancel claims 5 and 6 and amend claims 1 and 8-21, as indicated among the following complete set of pending claims:

Claim 1. (Currently Amended) A flat fluorescent lamp, comprising:

 a back substrate;

 a front substrate made of a transparent material and mounted on the back substrate through a sealing member disposed therebetween, to be spaced from the back substrate by a predetermined interval;

 a plurality of partitions alternately disposed between the back substrate and the front substrate, to define a discharge channel of a zigzag shape therebetween, the partitions being in close contact with the front substrate;

 a fluorescent material layer coated along a surface of the discharge channel defined by the partitions;

 [a plurality of] first electrodes disposed[[to at least one]] in spaced apart relation and extending substantially completely along both sides of an outer surface of the [[back substrate and an outer surface of the]] front substrate[[to cause a dielectric barrier discharge]]; [[and]] second electrodes disposed in spaced apart relation and extending substantially completely along both sides of an outer surface of the back substrate and facing the first electrodes; and

 a reflective layer formed of a combination of a white ceramic material and a glass material to cover the entire back substrate and an upper portion[[s]] of the electrode[[s]] of the [disposed to the] back substrate.

Claim 2. (Original) The flat fluorescent lamp as defined in claim 1, wherein the partitions are integrally formed with the back substrate.

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Claim 3. (Original) The flat fluorescent lamp as defined in claim 1, wherein the partitions are made of the same transparent material as the front substrate, and are integratedly formed with the front substrate.

Claim 4. (Original) The flat fluorescent lamp as defined in claim 1, wherein the partitions comprise first partitions integratedly formed with the back substrate, and second partitions integratedly formed with the front substrate.

Claim 5. (Canceled)

Claim 6. (Canceled)

Claim 7. (Original) The flat fluorescent lamp as defined in claim 1, further comprising a plurality of floating electrodes disposed between the electrodes of the back substrate.

Claim 8. (Currently Amended) The flat fluorescent lamp as defined in claim [[6]] 1, further comprising a plurality of floating electrodes disposed between the second electrodes of the back substrate.

Claim 9. (Currently Amended) The flat fluorescent lamp as defined in claim 1, wherein the electrodes of the back substrate have a plurality of apertures[[formed symmetrically with respect to the center line of the back substrate]], and the apertures are formed in stripe-, circle-, polygon-, or mesh-shapes.

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Claim 10. (Currently Amended) The flat fluorescent lamp as defined in claim [[1]]9, wherein the apertures of the electrodes are formed to have sizes decreasing gradually from an inner side of each electrode to an outer side thereof.

Claim 11. (Canceled) The flat fluorescent lamp as defined in claim[[8]]1, wherein the apertures of the electrodes are formed to have sizes decreasing gradually from an inner side of each electrode to an outer side thereof.

Claim 12. (Currently Amended) The flat fluorescent lamp as defined in claim 1, wherein the reflective layer comprises[[a mixture of a glass material and]] a white ceramic material including Al₂O₃, TiO₂, and WO₃, and is coated at a thickness not less than 20 μ m.

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Claim 13. (Currently Amended) A backlight [[lamp]] unit, comprising:

a flat fluorescent lamp including:

a back substrate,

a front substrate made of a transparent material and mounted on the back substrate through a sealing member[[disposed therebetween to be]], the front substrate spaced from the back substrate[[by]] a predetermined interval by the sealing member,

a plurality of partitions alternately disposed between the back substrate and the front substrate, and defining[[to define]] a discharge channel of a zigzag shape[[therebetween]], the partitions being in close contact with the front substrate,

a fluorescent material layer coated along a surface of the discharge channel defined by the partitions,

[[a plurality of]]first electrodes disposed in spaced relation to each other and extending substantially completely along both sides of[[to both the back substrate and]] the front substrate_{[[to cause a dielectric barrier discharge, and]]]}

second electrodes disposed in spaced relation to each other and extending substantially completely along both sides of the rear substrate to face the first electrodes,

a reflective layer to cover the entire back substrate and an upper portion of the electrode of the back substrate;

a reflective layer formed of a combination of a white ceramic material and a glass material to cover the entire back substrate and an upper portion[[s]] of the electrodes[[disposed to]] of the back substrate;

a light diffusion part spaced from an upper portion of the front substrate of the flat fluorescent lamp to diffuse light irradiated from the flat fluorescent lamp;

an insulating layer disposed under the reflective layer of the flat fluorescent lamp through a first adhesive layer; and

a base member disposed under the insulating layer[[through]] by a second adhesive layer.

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Claim 14. (Currently Amended) A backlight[[lamp]] unit, comprising:
a flat fluorescent lamp[[,]] including:
a back substrate,
a front substrate made of a transparent material and mounted on the back substrate through a sealing member[[disposed therebetween]], the front substrate[[to be]] spaced from the back substrate[[by]] a predetermined interval by the sealing member,
a plurality of partitions alternately disposed between the back substrate and the front substrate[[s]] and [[having odd number of partitions in close contact with the sealing member disposed at one side edge of the back substrate and even number of partitions in close contact with the sealing member disposed at the other side edge of the back substrate to define]] defining a discharge channel of a zigzag shape [[there]] between the back substrate and the front substrate, the partitions being in close contact with the front substrate,
a fluorescent material layer coated along a surface of the discharge channel defined by the partitions, [[and]]
[[a plurality of]]first electrodes disposed in spaced relation to each other and extending substantially completely along opposite sides of[[to both the back substrate and]] the front substrate,[[to cause a dielectric barrier discharge;]]
second electrodes disposed in spaced relation to each other and extending substantially completely along opposite sides of the rear substrate to face the first electrodes;
a light diffusion part spaced from an upper portion of the front substrate of the flat fluorescent lamp to diffuse light irradiated from the flat fluorescent lamp; and
[an insulating reflective layer disposed under the electrodes of the back substrate of the flat fluorescent lamp through a first adhesive layer; and]
a base member disposed[[under the insulating reflective layer]] at the second electrodes of the back substrate of the flat fluorescent lamp through[[a second]] an adhesive layer.

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Claim 15. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[11]]13, wherein the light diffusion part comprises a transparent plate to transmit light of the flat fluorescent lamp, and a diffusion plate disposed to be in contact with the transparent plate to diffuse the light.

Claim 16. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[12]]14, wherein the light diffusion part comprises a transparent plate to transmit light of the flat fluorescent lamp, and a diffusion plate disposed to be in contact with the transparent plate to diffuse the light.

Claim 17. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[11]]13, wherein the light diffusion part comprises an acryl plate having diffusibility.

Claim 18. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[12]]14, wherein the light diffusion part comprises an acryl plate having diffusibility.

Claim 19. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[14]]13, wherein the diffusion plate comprises a diffusible film or an acryl plate.

Claim 20. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[11]]13, wherein the discharge channel defined by the partitions has a pitch of 5 to 15 mm.

Claim 21. (Currently Amended) The backlight[[lamp]] unit as defined in claim[[12]]14, wherein the discharge channel defined by the partitions has a pitch of 5 to 15 mm.